ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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BRUCE RAUNER, GOVERNOR ALEC MESSINA, ACTING DIRECTOR

February 1, 2017

Mr. Daniel Grapski
ExxonMobil Environmental Services Company
Project Coordinator
25915 S. Frontage Rd.
SH&E Building/Room 237
Channahon, IL 60410

Mr. Wilmer Reyes
CBS Operations
20 Stanwix Street, 10th Floor
Pittsburgh, PA 15222

Re: 0110300003 – Bureau County
New Jersey Zinc/Mobil Chemical
Superfund/Technical Reports

Operable Unit 2 – Phosphogypsum Stack Area

Dear Mr. Grapski and Mr. Reyes:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed responses to comments on the Final Design Report, Operable Unit 2, Closure of the Phosphogypsum Stack System, The DePue Site, DePue, Illinois dated and received December 12, 2016. The responses were submitted by Amec Foster Wheeler (Amec) on behalf of the DePue Group.

These responses are essentially the same as those provided to the Illinois EPA in Amec's response letter dated August 16, 2016, with the addition of a summary of the revisions made to the Design Report and additional red-line text that has been added to the responses and subsequently to the revised Design Report. Illinois EPA's review of the responses, with minor follow up comments, is provided below.

With the exception of the comment regarding topsoil and comments 8, 9, 10, and 11, the other comments are relatively minor and do not require a formal response. Changes to address these comments should be made as appropriate in the Final Design. Illinois EPA suggests a conference call to discuss the need to make any changes based on consideration for topsoil, and comments 8, 9, 10, and 11.

Comments 1, 4, and 9: These responses are acceptable.

Comment 6 regarding Section 8.4, Seedbed Preparation, and specifically the topsoil from borrow areas: In Illinois EPA's comments on the Final Design Report, Illinois EPA noted that language was included indicating potential segregation of topsoil from borrow areas to place as topsoil on the cover soils. This is acceptable, but this soil interval has not been fully

represented in samples taken thus far from the east borrow source. The DePue Group responded that the 6-12 inch samples already analyzed from the east borrow source adequately represent soils from the entire 0-1 foot depth interval, which is proposed to be segregated as topsoil. The logic of this in unclear, since no soils from 0-6 inches were included in the actual samples. None of the iterations of the borrow source (i.e., the east area) sampling plan included soil from 0-6 inches and the sampling plan report indicated the first depth interval as 0.5 – 1.0 foot for all chemistry samples.

Illinois EPA can approve the sampling plan for the north borrow source (under separate cover) assuming the 0-1 foot depth interval sample is a composite that includes soil from 0-6 and 6-12 inches (for non-VOC analyses only). A cursory review of the sampling plans for the south and west borrow sources indicates that the west borrow source also includes 0-6 inch soils in the 0-1 foot planned depth interval, but the south borrow area does not include 0-1 foot as the first depth interval, only 6-12 inches.

Illinois EPA has no problem with segregating topsoil from any of the borrow source areas to be used as topsoil on the cover. However, Illinois EPA maintains its position that soils from 0-6 inches are not represented by the 6-12 inch sample at the east borrow source, and minimal additional sampling should occur to establish the topsoil's suitability for use.

The logic for the different approaches in the four sampling plans for the four borrow sources is not apparent. All soils that are planned to be used should be represented in the samples subject to chemical analysis.

Comments on the Revised Design Report

1. **Section 2.2**: Update the reference to the "2014 FCP."

2. **Section 3.3 Borings, subsection Direct Push Borings, page 10:** Several soil intervals shown on the logs for US2016-1 and US2016-2 in Appendix C do not contain moisture information (e.g., "dry", "moist", or "saturated"). This detail is important information that should be collected during all drilling and sampling activities. If this information is available from the drilling effort it should be shown on the logs. If not available, Amec should note for the future that this information should be collected for all soils, particularly when no piezometer or well will be installed.

   The text in this Section indicates the borings' terminal depths are shown on Figure 6. The figure does not include terminal depths; either include in the figure or modify the text appropriately.

3. **Section 6.2 Generalized Stratigraphy, page 19:** In the next to last paragraph, the following sentence appears: *The ground surface elevation ranges from approximately 585 feet at the east/northernmost boring (FC-US-SB-1) to approximately 539 feet at the west/southernmost boring (FC-US-SB-16).*
   Boring FC-US-SB-1 is actually the west/northernmost boring, and FC-US-SB-16 is the east/southernmost boring. Please make this correction.

4. **Section 6.2 Generalized Stratigraphy, page 20:** In the last sentence of this section: Please check the text against the logs for borings US2016-1 and US2016-2. Silt or silty clay was encountered at elevation 505 (rounded from 504.8) or 501 (rounded from 501.1) respectively, not 495 and 500.

5. **Sections 6.3 and 6.4, Grading and Earthwork:** Both sections reference open burning of vegetation "upon permitting." Please be advised that Illinois EPA permits for open burning of landscape waste, as well as the Village of DePue's Village Code allow open burning of landscape waste with the aid of an air curtain destructor or comparable device.

6. **Section 6.6 Closure System Design Analyses.** Under Soil Cover Thickness, page 26 the following sentence appears: *If the phreatic surface at the time of construction is greater than 1.0 foot above the design finished grade, the soil cover thickness will be increased to provide a factor of safety against uplift greater than 1.3.* Please describe the party that will be responsible for measuring the phreatic surface at the time of construction and for calculating the final soil cover thickness.

7. **Section 8.3, Vegetative Covers**, in regard to herbicide treatment of nuisance species which have invaded the south stack, see the Illinois Nature Preserves Invasive Species Management Guidelines for guidance in recommended practices for control of these species, https://www.dnr.illinois.gov/INPC/Pages/INPCManagementGuidelines.aspx

8. **Section 11.2 Design of Water Control Structure S-3 and Discharge Piping.** The profile provided on Figure 38 indicates that a portion of the Toe Ditch along the South Stack (at approximately 155+00) will require a 7 to 10 foot embankment in order to provide adequate freeboard during the 24-hour, 100-year peak design event. The top of embankment required to prevent the surface water from spilling over into the CWP is shown on Figure 38 at approximately 620 feet. Several questions arise from this proposed design:
   a. There does not appear to be adequate space south of the existing South Stack Toe Ditch due to the access road to place a 10 foot embankment without affecting the access road, the slope of the CWP, or both. How will this embankment be integrated into the current topography, considering embankment stability issues?
   b. Will a similarly tall embankment be placed on the north side of the existing Toe Ditch, and if so, how will it be integrated with the South Stack Geocomposite Drain Area (shown on Figures 13 and 14)?
   c. How and where will the 12 inch perforated trench drain associated with the South Stack Geocomposite Drain Area (shown on Figure 28) discharge to the CWP?

   Please update Figure 28, or any other appropriate figure, to show the interface between the geocomposite/trench drain and the South Stack Toe Ditch for this portion of the South Stack and provide additional information about grading of the required embankments near the S-3 structure of the South Stack Toe Ditch.

9. **Section 12.4 Seepage Collection Piping.** The 28 inch discharge line from Structure S3, the piping for the Upper and Lower Swale collection and the 3-inch Sump discharge pipe to the CWP pond should be shown on a drawing in plan view. Where do the two 3 inch sump discharge pipes enter the CWP?

10. **Section 13.1 Site Demolition Requirements.** Table 29 indicates that demolition debris and "muck" from swales, toe ditches, and ponds will be disposed on-site. How and where disposal will occur should be described along with any chemical testing required for proper disposal, particularly for "muck" removed from drainage/collection features.

11. **Tables 18 – 25:** Illinois EPA provides the following comments for consideration regarding the species proposed for the various areas. Some of the species proposed are expensive and could be replaced by less costly species, some species are not appropriate based on moisture requirements, and other proposed species are aggressive, weedy, and are or may become invasive, thus negatively impacting the surrounding environment.

    - **Table 19:** Illinois EPA suggests some additional species that are inexpensive and germinate readily: *Ratibida pinnata*, grey headed coneflower (summer blooms), *Aster novae-angliae*, New England aster (late summer to early fall blooms), Solidago speciosa, showy goldenrod (late summer to fall blooms).
    - **Table 23:** No scientific name is provided for Sudangrass. Please confirm the species name (i.e, *Sorghum bicolor*?).
    - **Table 23: Do not plant *Lotus corniculatus*, birdsfoot trefoil.** This is an aggressive non-native species and considered invasive. White clover is acceptable, but, in general, legumes may not be necessary here, since they will present significant competition for water.
    - **Table 24: Do not plant *Robinia pseudoacacia*, black locust.** This is a weedy, aggressive species, and invader of upland areas. Sassafras, which is already proposed to be planted, can act as a nurse tree, and Ulmus spp. (elms) could be planted if a nurse crop is thought to be necessary. The wildlife/understory species are acceptable, but will need initial protection from deer and rabbits in order to get established.
    - **Table 25**: Little bluestem is acceptable, but may not be necessary, given the other species included.

12. **Table 29.**
    a) A description of the location and purpose of Items #17, #18, and #34 (18-inch corrugated slope and stack top drainage piping, and 12-inch corrugated slope drainage piping) cannot be found in the text, but should be included.

b) Items #13, #32, and #48 only mention offsite cover soil. Since there are plans to possibly use an "on-site" source, entries should be included in the table for the on-site source. Is there a distinction between where off-site soils and on-site soils will be used?

If you have any questions or need additional information, please contact me at 217-785-2891 or at Charlene.Falco@illinois.gov.

Sincerely,

Charlene Falco
Project Manager
Federal Site Remediation Section

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